AMENDMENTS

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In The Specification:

Please amend paragraph [0020] as follows:

[0020] In order to avoid the foregoing errors, an interpolator 202 is used to interpolate the sampled digital signal from the ADC 200 and output an interpolated digital signal whose signal rate consists with the clock rate at the transmitter, as shown in FIG. 1. The clock 106 indicates the ticks to be interpolated out in the invention and is consisting with the clock 102 of the transmitting end with the same clock rate. The interpolated digital signal is a function of the sampled digital signal from the ADC 200. A timing tracking unit 208 is used to track the clock rate at the transmitter and then instructs which interpolation point the interpolator should interpolate at. There are various designs for the timing tracking unit 208. The process of the timing tracking may base on the digital data content from the data detector 206, as an example shown in FIG. 2, or the interpolated digital signal from the interpolator 202, or even an assistant pilot signal containing timing information from the transmitter. The function of the timing tracking unit 208 associating with other units will be described later in more detail.

Please amended paragraph [0029] as follows:

[0029] In the step 308, when the interpolation point instructed by the timing tracking unit 208 is changed, the interpolator 202 will adapt its interpolation filter coefficients according to the new interpolation point, as shown in the step 310. Also the timing tracking process may be temporarily frozen, as shown in the step 312 simultaneously, so as to increase the stability of the upcoming channel estimator retraining process. After the filter coefficients of the interpolator are adapted, the retraining process of the channel estimator 204 is performed subsequently, as

shown in the step 314, to estimate the new coefficients of the channel impulse response. Meanwhile, the data detection in step 316 at the data detector 206 keeps outputting decoded data so that the data communication is still ongoing.[[-]] While the retaining process 314 of the channel estimator 204 accomplishes, the timing tracking process 304 will then be activated, as shown in step 318. Both the timing tracking process 304 and data detecting process 306 are now performed based on the updated coefficients of the channel impulse response provided by the channel estimator 204. The steps 310-316 will repeat again, once the interpolation point is changed. The steps 310-316 are essential in the invention. It allows the estimated channel impulse response to be dynamically updated. This can significantly reduce the detection error of the data detector 206. Further, in order to more easily to determine the interpolation point in timing tracking unit 208, a time interval between two adjacent sampling clock points, or the ticks in FIG. 1, are evenly divided into a number of sub-time intervals, so that a set of time points is formed, the timing tracking unit tracks an actual interpolation point, chooses the one of the set of the time points closet to the actual interpolation point, and outputs the chosen time point as the interpolation point to the interpolation unit.

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